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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/737,043

12/15/2003

Lester F. Ludwig

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CHICAGO, IL 60603-3406

EXAMINER

WARREN, DAVID S

ART UNIT

PAPER NUMBER

2837

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/737,043	<b>Applicant(s)</b> LUDWIG, LESTER F.	
	<b>Examiner</b> DAVID S. WARREN	<b>Art Unit</b> 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-117 and 119 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 46-52, 62, 64, 84-86, 91-93, 103, 105, 112, 119 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Continuation of Disposition of Claims: Claims withdrawn from consideration are 3,5-45,53-61,63,65-83,87-90,94-102,104,106-111 and 113-118.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 112, and 119 are rejected under 35 U.S.C. 102(b) as being anticipated by Segan (5,140,889). Segan discloses the use of a plurality of individual musical modules (62 – 65), wherein each module generates an electrical signal (see Title), a separate mounting frame (66) physically distinct from each module (see fig. 1), securing modules in a reconfigurable arrangement, and each module is readily positionable (see col. 4, first paragraph; col. 6, lines 20 – 24), and an instrument interface (61).

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 1, 2, 4, 46, 47, and 112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (5,691,490) in view of Aitken et al. (4,658,690). Regarding claims 1 and 112, Williams discloses the use of customizable (col. 4, lines 12 – 16) aggregated instrument comprising a plurality of individual musical modules (20, 30) which generate electrical signals (col. 4, 4<sup>th</sup> paragraph), a separate mounting frame (col. 3, lines 11 – 16), a means for securing in a reconfigurable mounting arrangement (fig. 3; col. 2, lines 10 – 14), wherein each module is readily positionable with respect to each other, within any of a plurality of mounting locations, and a means for transmitting interface signals to an external system (col. 4, 4<sup>th</sup> paragraph). Williams discloses that the keyboard (a music module) is readily positionable with respect to mounting frame 40. Aitken shows strings 40 readily positionable with respect to mounting frame 20. Certainly it would have been obvious to one of ordinary skill in the art to make both modules (strings and keyboard) readily positionable with respect to a mounting frame. The motivation would be to allow greater adjustability. Regarding claim 2, the frame 40 has a linear arrangement (fig. 3). Regarding claim 4, the lower bout of the stringed instrument is curved, giving the upper edge of 40 a curve (fig. 5). Regarding claims 46 and 47, elements 26 are strings of module 20. Williams does not explicitly disclose that each module is readily positionable within a plurality of mounting locations of the mounting frame. Williams clearly shows a keyboard that is readily positionable mounted with a neck board. Aitken discloses the use of music modules (22, 40, 50, 70) having a keyboard (70) and a readily positionable neck board (22; col. 23, lines 21 – 28). It would have been obvious to one of ordinary skill in the art to combine the teachings of

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Williams and Aitken to obtain an aggregated instrument wherein each of the modules is readily positionable with respect to a mounting frame. The motivation for making this combination would be to provide a user with the flexibility to position the module in the most comfortable position to allow easy fingering.

3. Claims 48 – 52, 62, 64, 84 – 86, 91 – 93, 103, and 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams in view of Aiken and in further view of Tumura (5,585,588). The teachings of Williams and Aiken have been discussed supra with respect to independent claims 1 and 112. Regarding claim 48, Williams nor Aiken teach the use of an unfretted neck. However, Williams does teach the use of including “all types of electric guitars” – this would, include the very common fretless bass guitar. One of ordinary skill in the art would have thought to provide Williams with an unfretted neck. The motivation for making this combination would be to provide those musicians who favor a fretless bass guitar the opportunity to utilize the invention (and thus the keyboard) as shown in Williams. Regarding claim 49, Williams nor Aiken explicitly teach the use of sympathetic strings. The Examiner maintains that *all* strings are sympathetic, thus Williams would show a “plurality of sympathetic strings.” However, Tumura explicitly teaches that strings of an instrument can vibrate sympathetically (col. 1, lines 44 – 51). (The Examiner also notes that stringed instruments having separate sympathetic strings – i.e., those not meant to be strummed or plucked – have been in existence for thousands of years, such as sitars.) Regarding claim 50, Williams nor Aiken teach the use of a drive transducer to stimulate vibration. Tumura discloses a drive transducer (17; col. 17, lines 7 – 15) to provide stimulation to

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the vibrating element. It would have been obvious to one of ordinary skill in the art to combine the teachings of Williams, Aiken and Tumura to obtain an aggregated instrument having an unfretted neck, sympathetic strings, and a driver for stimulating vibration. The motivation for making this combination is that each of these elements offers a unique and interesting sound, and any musician who appreciates these sounds would be motivated to provide them into the Williams invention. Regarding claim 51, Williams does not show an electronic controller module secured within one of the plurality of mounting locations. However, Williams does teach the use of “conventional electronics downstream of the pickups 28 are provided, viz., one or more synthesizers, MIDI’s and computer(s) depending on the wishes of the musician/sound engineer, together, of course, with suitable amplifiers and speakers” (col. 4, 4<sup>th</sup> paragraph). Also see Aiken’s fig. 4). The Examiner notes that “downstream of the pickups” may include a location on the instrument body as is common with virtually all commercially available electric guitars (i.e., volume and/or tone controls). It would have been obvious to one of ordinary skill to provide Williams with an “electronic controller module.” The motivation for making this addition would be to allow a user to change her volume while playing the instrument. Regarding claims 52, 62, 64, the use of keyboards, sliders, and impact sensors are notoriously well-known in the electronic music art and Official Notice is hereby taken (e.g., DSP remotes with keys are frequently mounted to guitars, sliders are often used on guitars as volume controls, and impact sensors are frequently used to trigger MIDI devices). Regarding claims 84 – 86, 91 – 93, 103 and 105 all limitations have been discussed supra except the hierarchical modules using “small-scale”

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modules. The Examiner maintains that a mere variation in size is not a patentable feature. For example, a small module within a module is still a module. For the Applicant to define “small-scale” module in some kind of hierarchical relation is deemed to be arbitrary. For the purposes of this rejection, the Examiner is interpreting the modules (20, 30) of Williams to be “small-scale” and the Williams’ instrument as a whole to be a “mounting location.”

4. Claims 84 – 86, 91 – 93, 103, and 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams and Aiken in view of Tumura (5,585,588) and in further view of Norton (5,994,633). The teachings of Williams, Aiken and Tumura have been discussed supra. As stated supra, the Examiner maintains that “small-scale” does not constitute a patentable limitation. However, to strengthen the Examiner’s position, the following rejection is put forth: Regarding claim 84, neither Williams, Aiken nor Tumura disclose a small-scale module (interpreted here as a “module within a module”). Norton discloses a control module (132) having plural and separate controls (134) within the control module (132). The Examiner is defining these controls (134) as “small-scale” modules within a module (132), i.e., a module within a module. Regarding claims 85, 86, 91 – 93, 103, and 105 all limitations have been previously discussed. It would have been obvious to one of ordinary skill in the art to combine the teachings of Norton with those of Williams, Aiken and Tumura. The motivation for making this modification would be to allow a musician with plural controls to augment and/or enhance the musicians music (e.g., to provide control of both tone and volume, or both pickup phase and pickup selection, etc.).



### ***Response to Arguments***

The Applicant argues that “Williams provides no such teachings” as to “whether the keyboard is electronic or acoustic.” The MPEP (706.02(j)) states that “the references must expressly or impliedly suggest the claimed invention...” [Examiner’s emphasis]. As stated in the previous Office Action, (1) Williams states that electronic equipment, e.g., synthesizers (synthesizers are typically keyboard instruments) may be placed downstream from the pickups – this would impliedly suggest to one of ordinary skill in the art that keyboard 30 be placed electrically downstream, (2) Williams’ fig. 1 shows controls that would impliedly suggest to one of ordinary skill in the art that the keyboard is electronic, (3) the mere size (and weight) of an acoustic instrument would render the Williams invention unusable (the Applicant suggested a harmonium and clavichord – a harmonium requires forced air and reeds, the Examiner finds it hard to believe that one of ordinary skill would surely not think to use an electronic instrument as opposed to pumping air; the weight of a clavichord is similar to a piano, one of ordinary skill could not support a clavichord), and (4) the volume of the electric guitar would impliedly suggest to one of ordinary skill in the art that an acoustic instrument of the size shown by Williams would be unusable in most situations where an electric guitar is used. Furthermore, even if the instrument in Williams is acoustic, one of ordinary skill in the art would certainly think to use an electronic keyboard.

The Applicant also argues that the cited references do not disclose modules positionable relative to a separate mounting frame. As stated supra, Williams discloses positioning a keyboard relative to a frame (40), Aitkens discloses positioning strings (40) relative to a mounting frame. The Examiner maintains that one of ordinary skill would think to position both a keyboard and strings relative to a mounting frame. Furthermore, the new reference (and rejection) to Segan clearly shows adjustable modules relative to a mounting frame.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See Notice of References Cited (PTO form 892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID S. WARREN whose telephone number is (571)272-2076. The examiner can normally be reached on M-F, 9:30 A.M. to 6:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on 571-272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David S. Warren/  
Primary Examiner, Art Unit 2837